



South Coast Air Quality Management District

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Summary of the Revisions to Proposed Amended Rule 1110.2

July 25, 2007

Original Proposal	Revisions
Requirements	
<ul style="list-style-type: none"> • Reduce NO_x, CO and VOC concentration limits to 11/70/30 ppmvd @ 15% O₂ by 2010-2012 	<ul style="list-style-type: none"> • Increase CO limit from 70 to 250 ppmvd. • Exception for low-use engines: < 500 hrs/yr or < 1 billion Btu/yr. • For 2-stroke engines, allow a case-by case CO and VOC limits if 250/30 is not achievable
<ul style="list-style-type: none"> • 7/1/2012 compliance date for biogas engines using > 90% biogas annually. 	<ul style="list-style-type: none"> • Resolution will direct staff to: not submit the 2012 biogas limits as part of the SIP; and conduct a technology review by 7/1/2010 • 10% natural gas limit changed to monthly • Exception to the 10% natural gas limit if it would result in digester gas flaring.
<ul style="list-style-type: none"> • For engines without CEMS, require an air-to-fuel ratio controller (AFRC) with an oxygen sensor and feedback control 	<ul style="list-style-type: none"> • Allow other equivalent control technology approved by the Executive Officer (EO)
Continuous Emission Monitoring	
<ul style="list-style-type: none"> • For engines currently required to have a NO_x CEMS, add a CO CEMS 	<ul style="list-style-type: none"> • Not require a CO CEMS for lean-burn (LB) engines • Allow NO_x CEMs to be out-of-service for two weeks to allow installation of CO CEMs (avoids need for a variance)
<ul style="list-style-type: none"> • Require NO_x and CO CEMs for groups of engines > 1000 combined hp 	<ul style="list-style-type: none"> • Combined hp threshold increased to 1500 hp • Exclusions for < 500 hp engines, engines limited to standby use, low-use engines < 1000 hours/yr or 8 billion Btu/yr, groups of engines limited to no more than 1500 hp of engines operating simultaneously • No CO CEMS for LB engines or RECLAIM engines not required to have a NO_x CEMs • Prohibit moving an engine to avoid requirement
<ul style="list-style-type: none"> • Allow time-sharing for the new CEMS 	<ul style="list-style-type: none"> • Modifications to the Rule 218/218.1 requirements to simplify requirements, reduce costs, and make time-sharing more feasible

<u>Source Testing</u>	
<ul style="list-style-type: none"> • Increase source testing frequency from every three years, to every two years or 8,750 hours of operation, whichever comes sooner 	<ul style="list-style-type: none"> • Exception if < 2000 operating hours since last source test
<ul style="list-style-type: none"> • Require tests at actual minimum load, actual maximum load, and under normal operating conditions 	<ul style="list-style-type: none"> • Minimum and maximum load tests based on what can be practically achieved during the test • Require only one test if an engine is limited to one load, $\pm 5\%$
<ul style="list-style-type: none"> • Require source test protocol 	<ul style="list-style-type: none"> • Add determination of minimum required VOC test length • Allow submittal of a previously-approved protocol if no significant changes • Extend source test due date if AQMD approval is delayed
<ul style="list-style-type: none"> • Require source test report submittal to EO within 45 days of the test 	<ul style="list-style-type: none"> • Allow 15-day extension if report not available from contractor
<ul style="list-style-type: none"> • Require sampling ports, sampling platforms and utilities 	<ul style="list-style-type: none"> • Allow scaffolding or mechanical lifts • Compliance with California General Safety Orders • Partial exceptions for agricultural engines
<u>Inspection and Monitoring</u>	
<ul style="list-style-type: none"> • For engines without CEMS, requires determining acceptable ranges, based on testing, for operating parameters such as: load; O2 sensor output; catalyst inlet, outlet and delta temperatures; 	<ul style="list-style-type: none"> • For rich-burn (RB) engines, determine the acceptable range of O2 sensor output deviation from setpoints • For LB engines, determine the acceptable range of O2 sensor output • Maximum and minimum catalyst temperatures may be based on manufacturer specifications • For RB engines, the normal catalyst delta T must be identified • Exception for diesel engines without exhaust gas recirculation and catalytic controls
<ul style="list-style-type: none"> • Weekly or 150-hour portable analyzer tests, reduced to monthly or 750-hour if three successful tests 	<ul style="list-style-type: none"> • For diesels and other LB engines that are subject to RECLAIM or have a NOx CEMs, a quarterly or 2000-hr CO test is required
<ul style="list-style-type: none"> • For RB engines, determine acceptable range for O2 sensor output whenever a set point adjustment is needed or an O2 sensor is replaced 	<ul style="list-style-type: none"> • Identify procedure for set point adjustments
<ul style="list-style-type: none"> • Require plan revision procedures 	<ul style="list-style-type: none"> • Specify a plan revision needed for changes to emission limits or control equipment

<u>New DG Engine Monitoring</u>	
• Requires monitoring of net electrical output	• Requires a calibrated electric meter
• For DG engines with CEMs, requires monitoring and recording of lbs/MW _e -hr	• Adds ppmvd, lbs/hr and net MW _e -hrs
<u>Reporting</u>	
• Report noncompliance in same manner as Rule 430	• Remove reference to Rule 430, and put requirements in Rule 1110.2
<u>Compliance Schedules</u>	
• Compliance schedule for equipment modifications starting 12 months before compliance date	• For three of the steps, an additional 30 to 60 days is provided after a permit to construct is issued
• All engines requiring CEMS on same compliance schedule starting in 2008 (Table VII)	• Engines < 750 hp given an extra year • Public agencies given an extra year • 3 tracks starting in 2008, 2009 and 2010
• AFRC required within 1 year of rule adoption	• For operators with more than 5 engines, an additional 3 months is allowed for up to 50% of the engines
•	• Exception from the compliance schedule dates if the operator commits in writing to remove an engine from service by the final compliance date.
<u>Exemptions</u>	
• 15-minute startup exemption	• 30-minute startup exemption, or more on a case-by-case basis.
•	• Removal of exemptions for ski area engines and engines outside South Coast and Salton Sea Air Basins
•	• Revises exemption for agricultural emergency engines to take into account many will be exempt from a permit